



TEACHER GUIDE

PATTERNS IN THE SKY GRADES K-2

COMMON MISCONCEPTIONS

- **Students may think that the sun disappears at night.**
The sun is a star. The sun is always shining, even at night when we cannot see it. The sun does not spin around us, instead the earth rotates, so nighttime is when the sun is shining on the other side of the earth.
- **Students may think that stars disappear during the day.**
Stars are always shining, even when we cannot see them. Stars are very far away. We cannot see them during the day because their light is so much fainter than the light from the sun. When the sun goes down we can see the faint light from all the other stars.

PATTERNS

A pattern is something that happens the same way more than once. A pattern can be numbers, shapes, events or anything else that repeats in the same way. The key is that patterns repeat in a predictable way.

THE SUN, MOON AND STARS FOLLOW THE SAME PATTERN

The sun, moon and stars all follow the same pattern. Their pattern can be predicted with the recurring cycle of day and night. The sun, moon and stars rise above the horizon in the east and set by dropping below the horizon in the west.

THE POSITION OF THE SUN AFFECTS SHADOWS

Shadows move due to the sun's movement across the sky from east to west. When teaching at this level, we say that the sun moves in the same pattern every day. In higher grade levels, students will learn that the sun can rise higher or lower in the sky depending on the time of year, which is what causes seasons. This level of detail is not discussed at this level.

TIPS FOR TEACHERS

Children may have previous experiences with patterns in nature, such as repeating shapes in snowflakes, honeycomb or the stripes on a tiger. However, some students may need help to build background knowledge. You can provide pictures of common patterns in nature and have students work in pairs to identify the patterns they see.

